

The Pros and Cons of mobile, portable, and fixed radio stations

FRS stands for the family radio service. It is short range, low power, and restricted in use in comparison to GMRS (General Mobile Radio Service), which can use over twice the power, more frequencies, and the most crucial advantageous feature, external high gain antennas. These distinctions are outlined in detail at the FCC websites and also in many other related sites. To be clear the “M” in GMRS does not limit the service to mobile use at all.

Since radio was started before there were any commercial radio services, it was all amateur radio and most if not all conventions were established through the growth of the amateur radio system.

HANDHELD Radios (walkie-talkies)

This is the least effective mode of radio operation, as the antennas and low power output severely limits the range. The advantage is that they easily can go anywhere and operated mobile, portable, or fixed. In order to partially rectify this limitation, good operating procedures dictate utilizing an extended antenna, an external portable antenna, or better an outdoor high gain antenna fed with a high quality (low loss) transmission line.

MOBILE

Conventionally, the term “mobile”, was ascribed to any station who was capable of operating or was operating while mobile in an auto, a boat, or a plane. The FCC used to require such stations to sign their call signs as mobile (or if in Morse Code add a /m (forward slash m). Today any radio operator who can operate while mobile in their auto or motorcycle and who can be easily and quickly dispatched to any site in Kensington/El Cerrito and report back to the EOC and/or the KAROECHO network is designated as a mobile station. A mobile station is simply a radio with an outdoor (usually rooftop mounted) antenna. The most common antennas are those which are magnetically mounted (mag-mounts). The advantages of mobile operation are easily gleaned assuming that the roadways are open. Please note that widespread downed powerlines and trees are most common in hurricanes, tornadoes, and floods, but not earthquakes. As long as the auto has gas, it can also act as a charging station for long term battery operation given the correct adapters, while the external mag-mount antenna mounted on the roof of an auto is far superior to attached rubber ducky handheld antennas. The disadvantage of a mobile operation is that it must be parked on the street; while the CERT Area ICP may be located in the middle of a field or a distance away, thus necessitating runners/messengers or relays. Mobile antennas are limited in range because being close to the ground and have lower gain than larger portable or fixed antennas.

PORTABLE Operations

A portable station consists of a radio, an external gain antenna, a portable mast for the antenna, a transmission line (in order to connect the radio to the antenna), and a battery source. One advantage is that the portable station can be picked up and moved anywhere. The disadvantage is that it is slower to set up than a mobile and cannot be operated while mobile. Hence, it is not suitable for a quick windshield survey, but excels at ICP/staging areas or auxiliary assignments like an alternative EOC.

FIXED Location with Emergency Power

The fixed location doesn't move. It is usually set up in a Fire Station, Emergency Operating Center (EOC), Hospitals, the home of a Net Control Station (NCS), the Emergency Coordinator (EC), Assistant Emergency Coordinator (AEC), and other ham home locations monitoring the situation and awaiting assignment or assistance. When suited with back-up emergency power, high power, and well located gain antennas these stations have the best ability to hear, and thus communicate, with

the entire Kensington/El Cerrito region. Many such fixed stations can talk direct all the way to Sacramento, Los Angeles, NY, and a few worldwide. There are no disadvantages as long as their emergency power is conserved.

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